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YORK Survey Supply

High Accuracy K-Type Thermometer

Code: 320950

Operating Instructions

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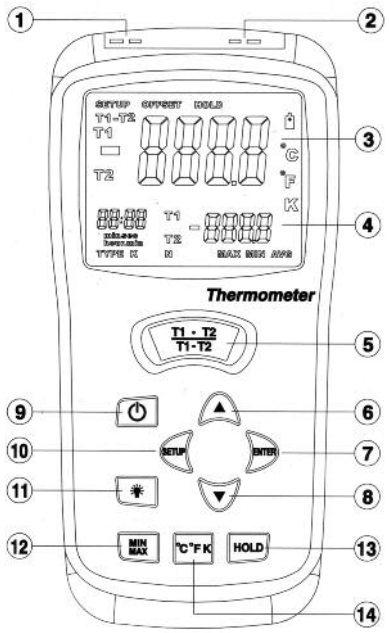
High Accuracy K-Type Thermometer

Specification

The dual input contact thermometers offer fast response and laboratory accuracy. These thermometers work with K-type thermocouples and offer 0.1°C/0.1°F resolution.



1. Type K
2. Type K
3. Primary Display
4. Secondary Display
5. T1, T2, T1 - T2
6. Up
7. Enter
8. Down
9. On/Off
10. Setup
11. Backlight
12. Min, Max, Avg
13. Hold
14. °C, °F, K

General Specifications	
Dimensions (without holster)	165 x 76 x 43mm
Battery	9V
Operating Temperature	0°C to +50°C (32°F to +122°F) non-condensing
Storage Temperature	-10°C to +50°C (14°F to +122°F)
Temperature Range	
K-Type Thermocouples	-200°C to 1372°C (-328°F to 2501°F)
Temperature Accuracy	
T1, T2 Above -100°C (-148°F)	±[0.15% rdg + 1°C (1.8°F)]
T1, T2 Below -100°C (-148°F)	±[0.5% rdg + 2°C (3.6°F)]
T1 - T2	±[0.5% rdg + 1°C (1.8°F)]
Display Resolution	0.1°C / °F / K <1000° 1°C / °F / K >1000°

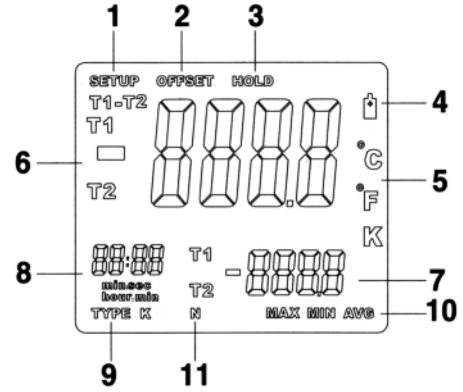
Features

1. Large backlit dual display shows any combination of T1, T2, T1 - T2 plus MAX, MIN, AVG
2. Relative time clock on MAX,MIN and AVG provides a time reference for major events.
3. Electronic Offset function allows compensation of thermocouple errors to maximise overall accuracy.
4. Readout in °C, °F or Kelvin (K)
5. Auto Power Off mode (Sleep Mode) increases battery life.

Button

1. Press [⏻] to turn the thermometer on or off.
2. Press [MIN MAX] to step through the maximum, minimum and average readings. When reading, shows the maximum, minimum and average of the logged readings. To exit the MIN/MAX/AVG mode, press the [MIN MAX] button for 3 seconds to return to normal operation.
3. Press [°C °F K] to switch between Celsius (°C), Fahrenheit (°F) and Kelvin (K).
4. Press [HOLD] to freeze or unfreeze the displayed readings.
5. Press [T1 - T2 / T1-T2] to toggle showing the T1, T2 and T1 - T2 (differential temperature measurement) in the primary or secondary display.
6. Press [SETUP] to start or exit Setup (see “Changing Setup Options”).
7. Press [▲] to scroll to the Setup option you want to change.
   Press [▲] to increase the displayed setting.
8. Press [▼] to scroll to the Setup option you want to change.
   Press [▼] to decrease the displayed setting.
9. Press [ENTER] to enter a Setup option. Press [ENTER] again to store the displayed setting in memory.

Display Elements



1. Setup is in progress
2. The thermocouple measurement includes an offset (see “Changing Setup Options”)
3. The displayed readings do not change
4. Low battery - replace the batteries
5. The temperature unit
6. Primary Display: T1, T2 or T1 - T2 reading
7. Secondary Display: MAX, MIN, AVG or offset, T1 or T2 reading
8. Time Display: the elapsed time
9. The thermocouple type
10. MAX, MIN, AVG display
11. Auto Power Off disabled

Using the Thermometer

1. Plug the thermocouple(s) into the input connector(s).
2. Press [⏻] to turn on the thermometer. After 1 second, the thermometer displays the first reading. If no thermocouple is plugged into the selected input or the thermocouple is “open” the display shows “**- - - -**”.

Changing Setup Options

Use Setup to change offset, sleep mode settings. The thermometer stores the settings in its memory.

Setup Options

Option	Menu Item	Settings
Offset	Offset	T1 or T2
Sleep Mode	SLP	On (sleep mode on) or OFF (sleep mode off)

Entering or Exiting Setup

When the thermometer is in Setup mode, the display shows **SETUP**.

Press [SETUP] to start or exit Setup.

Changing a Setup Option

1. Press [▲] or [▼] to scroll to the Setup option you want to change.
2. Press [ENTER] to indicate that you want to change this setting.
3. Press [▲] or [▼] until the setting you want to use appears on the display.
4. Press [ENTER] to store the new setting in memory.

Note: Setup is disabled in MIN/MAX mode.

Offset

The primary display shows the temperature plus the offset and the secondary display shows the offset. Remember to reset the offset to 0.0. You can store individual offsets for T1 and T2.

Auto Power Off Mode

The thermometer enters sleep mode (default). That is to say, the meter will automatically shut off if no button press occurs for 20 minutes. When the auto power off mode is disabled, a letter “**N**” is shown on the screen (“Display Elements”).
When the thermometer is in Setup mode, the display shows **SETUP**.

Press [▲] or [▼] to scroll to the “**SLP**” page.

Press [ENTER] to indicate “**On**” or “**OFF**”. Press [▲] or [▼] until the setting you want to use appears on the display. Press [ENTER] to store the new setting in memory. **On** (sleep mode on) or **OFF** (sleep mode off).

Displaying Temperatures

1. Press [°C °F K] to select the correct temperature scale.
2. Hold or attach the thermocouple(s) to the measurement location. The temperature reading appears in the primary display.
3. Press [T1 - T2 / T1-T2] to toggle between showing the T1, T2 and T1 - T2 readings in the primary or secondary display.

Notes

The display shows “**- - - -**” when a thermocouple is not connected.
The display shows **OL** (overload) when the temperature being measured is outside the thermocouple’s valid range.

Holding the Displayed Readings

1. Press [HOLD] to freeze the readings on the display. The display shows **HOLD**.
2. Press [T1 - T2 / T1-T2] to toggle showing the T1, T2 or T1 - T2 readings in the primary or secondary display.
3. Press [HOLD] again to turn off the HOLD function.

Viewing the MIN, MAX and AVG Readings

1. Press [MIN MAX] to step through the maximum (MAX), minimum (MIN) and average (AVG) readings. The elapsed time since entering MIN/MAX mode or the time at which the minimum or maximum occurred appears on the display.
2. Press and hold [MIN MAX] button for 3 seconds to exit MIN/MAX mode.

Using the Offset to Adjust for Probe Errors

Use the offset option in Setup to adjust the thermometer’s readings to compensate for the errors of a specific thermocouple. The allowable adjustment range is ±5.0°C or ±9.0°F
1. Plug the thermocouple into the input connector.
2. Place the thermocouple in a known, stable temperature environment (such as an ice dry well calibrator).
3. Allow the readings to stabilise.
4. In Setup change the offset until the primary reading matches the calibration temperature (“Changing Setup Options”)

Replacing the Batteries

1. Turn off the thermometer if necessary.
2. Loosen the screw and remove the battery door.
3. Replace 9V batteries.
4. Replace the battery door and tighten the screw.

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